

REMARKS

I. Status of Claims

Claims 1-3 and 5-8 are pending in the application. Claims 1 and 8 are independent. Claim 7 is currently amended. Claim 4 was previously canceled.

Claims 1, 5, 6, and 8 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 2004/0035101 (“Imai”).

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Imai in view of U.S. Patent No. 6,829,886 (“Nakata”).

Claim 7 is objected to as being dependent upon a rejected base claim.

The Applicant respectfully requests reconsideration of the rejections in view of the following remarks.

II. Allowable Subject Matter

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Accordingly, dependent claim 7 has been rewritten in independent form to include all of the limitations of claim 1. Accordingly, the Applicant respectfully submits that claim 7 is in condition for allowance.

III. Pending Claims

Independent claims 1 and 8 stand rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Imai.

The Applicant respectfully submits that claim 1 is patentable over Imai at least because it recites, *inter alia*, “...a determining section that determines whether the vehicle is driving downhill, wherein the regeneration control section suspends the heating control when the determining section determines that the vehicle is driving downhill...”

The Applicant respectfully submits that claim 8 is patentable over Imai at least because it recites, *inter alia*, “...determining whether the vehicle is driving downhill; and suspending the

supply of fuel to the exhaust purification catalyst when the vehicle is determined to be driving downhill....”

The Office Action alleges that each element of claims 1 and 8 is described in Imai. The Applicant respectfully disagrees for the following reasons.

The present application describes, for certain embodiments, a system that controls the addition of fuel to the exhaust in order to purify various catalysts. The increased fuel increases the temperature of the catalyst bed, thereby purifying the filter. However, under certain driving conditions, such as driving downhill for example, the temperature increase caused by the addition of the fuel is offset by various factors. This may cause the purification cycle to fail. Thus, the present application describes, among other things, a system that determines whether additional fuel should be added to the exhaust based on whether the vehicle is driving downhill. For example, claim 1 recites, in part:

a determining section that determines whether the vehicle is driving downhill, wherein the regeneration control section suspends the heating control when the determining section determines that the vehicle is driving downhill¹

In contrast, it is respectfully submitted that Imai describes a regeneration control method for removing particulate matter (PM) “while suppressing the deterioration of fuel consumption and preventing a [sic] drivability from being deteriorated.” (Imai at Abstract.) The device itself makes no mention of making a determination of whether a vehicle is driving downhill, as recited in claim 1 of the present application. Further, Imai fails to describe a regeneration controller that suspends the heating of the bed of a catalyst when the determining section determines that the vehicle is driving downhill.

In fact, it is respectfully submitted that the term “downhill” is found only once in Imai: in the background section. In paragraphs [0017] and [0018] of Imai, the reference discusses various operating conditions where the exhaust gas temperature of a vehicle will be low. Imai lists “engine break functioning operation on the downhill” as one of these conditions.

However, Imai makes no mention of determining whether the vehicle is driving downhill or how it may be determined that the vehicle is doing so. In addition, Imai never describes using

this determination of whether a vehicle is driving downhill to suspend a regeneration operation.

It is respectfully submitted that Nakata does not make up for the deficiencies of Imai. Although the Examiner asserts that Nakata describes that “it is conventional in the art to judge an operating state of the engine being in a low load condition (i.e. vehicle coasting) . . . in order to execute a fuel-cut operation,” Nakata does not teach determining whether a vehicle is driving downhill as a means to suspend regeneration. (Office Action at 4.)

Accordingly, the Examiner has failed to show that Imai teaches each limitation of claims 1 and 8 of the present application. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Further, the Applicant respectfully submits that, as discussed in *KSR Int’l Co. v. Teleflex, et al.*, No. 04-1350, (U.S. Apr. 30, 2007), it remains necessary to identify the reason why a person of ordinary skill in the art would have been prompted to combine alleged prior art elements in the manner as claimed by the Applicant. Accordingly, claims 1 and 8 are not rendered obvious by Imai in view of the cited references.

The Applicant respectfully submits that, for at least these reasons, claims 1 and 8, as well as their dependent claims, are patentable over the cited references.

¹ It is respectfully submitted that claim 8 contains similar language.

IV. Conclusion

The Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is respectfully requested.

The Examiner is invited to contact the undersigned at (202) 220-4420 to discuss any matter concerning this application.

Applicants do not believe that any additional fees are required in connection with this submission. Nonetheless, Applicants authorize payment of any additional fees under 37 CFR §§ 1.16 or 1.17 or credit any overpayment to Deposit Account No. 11-0600.

Respectfully submitted,

Dated: June 4, 2009

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